

What is claimed is:

1. An antenna feed block for a branch fed antenna interleaved with a series fed antenna, sharing a common centerline, comprising:

a first antenna feed housing, the first housing having a hollow portion capable of accommodating a first antenna feed line and capable of being attached to an antenna tower; and

a second antenna feed housing having a hollow portion, the second housing being affixed to the first housing, the second housing, comprising:

a second antenna feed line input at a side of the housing;

a balun attached to an other side of the second housing;

an inner conductor interior to and coaxial with the balun; and

an elbow shaped joint within the second housing's hollow portion, connecting the input to the outer conductor, the elbow joint being insulated from the balun and the second housing.

2. The antenna feed block according to claim 1, wherein the orientation of the first feed line and the orientation of the second feed input are substantially transverse with respect to each other.

3. The antenna feed block according to claim 1, wherein the balun is substantially perpendicular to the orientation of the second feed line.

4. The antenna feed block according to claim 1, further comprising:

a reinforcing collar about a portion of the balun.

5. The antenna feed block according to claim 1, wherein the input has a threaded surface.
6. The antenna feed block according to claim 1, wherein the elbow joint is insulated from the balun and the second housing with a plurality of insulators.
7. The antenna feed block according to claim 6, wherein the insulators support the elbow joint.
8. The antenna feed block according to claim 1, wherein the hollow portion of the first housing contains a material capable of substantially absorbing an impact of the first feed line on the first housing.
9. The antenna feed block according to claim 1, wherein the first antenna feed line carries an analog electromagnetic signal and the second antenna feed line carries a digital electromagnetic signal.
10. The antenna feed block according to claim 9, wherein the first antenna feed line carries a radio frequency digital signal and the second antenna feed line carries a radio frequency analog signal.
11. The antenna feed block according to claim 9, wherein the electromagnetic

signals are FM radio signals.

12. An antenna feed block for a branch fed antenna interleaved with a series fed antenna, sharing a common centerline, comprising:

a first housing means for housing a first antenna feed and having a hollow portion and attachable to an antenna tower;

a second housing means for housing a second antenna feed having a hollow portion and attachable to the first antenna feed housing means; the second housing means comprising:

a balun;

an electrical conducting means inside the balun;

an antenna feed line input; and

a connecting means for electrically connecting a signal from the input to the electrical conducting means.

13. The antenna feed block according to claim 12, wherein the orientation of the first feed and the orientation of the second feed are substantially transverse with respect to each other.

14. The antenna feed block according to claim 12, wherein the balun is substantially perpendicular to the orientation of the second feed.

15. The antenna feed block according to claim 12, further comprising:  
a reinforcing means about a portion of the balun.

16. The antenna feed block according to claim 12, wherein the antenna feed line input has a mating means for mating the second antenna feed to the second housing means.

17. The antenna feed block according to claim 12, wherein the conducting means is insulated from the balun and the second housing means with an insulating means.

18. The antenna feed block according to claim 17, wherein the insulating means also support the connecting means.

19. The antenna feed block according to claim 12, wherein the hollow portion of the first housing means contains a shock absorbing means for absorbing an impact of the first feed on the first housing means.

20. A method for feeding signals to two sets of interleaved antennas sharing a common centerline, the method comprising:

feeding a first signal to a first interleaved antenna of a first antenna set using a series feed; and

feeding a second signal to a second interleaved antenna of a second antenna set using a branch feed, wherein the branch feed is centrally accommodated to enable the series feed to pass through to feed a next interleaved antenna element of the first antenna set.

21. The method according to claim 20, wherein the second signal is a electromagnetic digital signal.
22. The method according to claim 20, wherein the first and second signals are simultaneously transmitted.
23. The method according to claim 20, wherein there are a plurality of branch feeds and series feed.